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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------------|------------------|
| 10/031,691 | 04/18/2002 | Victor Uebele | 20499P | 8269 |
| 210 | 7590 | 07/23/2004 | | |
| MERCK AND CO INC P O BOX 2000 RAHWAY, NJ 070650907 | | | EXAMINER MERTZ, PREMA MARIA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1646 | |

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,691

Applicant(s)

UEBELE ET AL.

Examiner

Prema M Mertz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-42 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restriction

1. This application is a 371 of PCT/US00/19585. For applications filed under 371, PCT rules for lack of unity apply.

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains inventions or groups of inventions, which are not so linked as to form a single inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I. Claims 1-12, 14, drawn to a DNA encoding a protein of amino acid sequence set forth in SEQ ID NO:2 and the protein encoded thereby.

Group II. Claims 1-12, 14, drawn to a DNA encoding a protein of amino acid sequence set forth in SEQ ID NO:4 and the protein encoded thereby.

Group III. Claims 1-12 and 14, drawn to a DNA encoding a protein of amino acid sequence set forth in SEQ ID NO:6 and the protein encoded thereby.

Group IV. Claims 1-12 and 14, drawn to a DNA encoding a protein of amino acid sequence set forth in SEQ ID NO:8 and the protein encoded thereby.

Group V. Claims 1-12, 14, drawn to a DNA encoding a protein of amino acid sequence set forth in SEQ ID NO:10 and the protein encoded thereby.

Group VI. Claim 13, drawn to an antibody to a protein of amino acid sequence set forth in SEQ ID NO:2.

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Group VII. Claim 13, drawn to an antibody to a protein of amino acid sequence set forth in SEQ ID NO:4.

Group VIII. Claim 13, drawn to an antibody to a protein of amino acid sequence set forth in SEQ ID NO:6.

Group IX. Claim 13, drawn to an antibody to a protein of amino acid sequence set forth in SEQ ID NO:8.

Group X. Claim 13, drawn to an antibody to a protein of amino acid sequence set forth in SEQ ID NO:10.

Group XI. Claims 15-17, drawn to a method for identifying substances that bind to a calcium sensitive channel of amino acid sequence set forth in SEQ ID NO:2.

Group XII. Claims 15-17, drawn to a method for identifying substances that bind to a calcium sensitive channel of amino acid sequence set forth in SEQ ID NO:4.

Group XIII. Claim 15-17, drawn to a method for identifying substances that bind to a calcium sensitive channel of amino acid sequence set forth in SEQ ID NO:6.

Group XIV. Claim 15-17, drawn to a method for identifying substances that bind to a calcium sensitive channel of amino acid sequence set forth in SEQ ID NO:8.

Group XV. Claim 15-17, drawn to a method for identifying substances that bind to a calcium sensitive channel of amino acid sequence set forth in SEQ ID NO:10.

Group XVI. Claims 18-20, drawn to a method for identifying DNA sequences in the $\beta 3$ gene by using fragments of the $\beta 3$ gene.

Group XVII. Claims 21-24, drawn to a method for identifying DNA sequences in the $\beta 3$ gene by using radiolabeled fragments of the $\beta 3$ gene and nuclear extracts of cells.

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Group XVIII. Claims 25-26, drawn to a method of identifying nuclear factors involved in $\beta 3$ gene transcription regulation.

Group XIX. Claim 27, drawn to a method of identifying nuclear factors involved in $\beta 3$ gene transcription regulation using an antibody.

Group XX. Claims 28-29, drawn to a method of identifying clones encoding nuclear factors involved in $\beta 3$ gene transcription regulation.

Group XXI. Claim 30-32, drawn to a method of identifying nuclear factors involved in $\beta 3$ gene transcription regulation using phage expressing cDNA.

Group XXII. Claim 33-37, drawn to a method of identifying nuclear factors involved in $\beta 3$ gene transcription regulation using nuclear extracts.

Group XXIII. Claim 38-40, drawn to a method of identifying nuclear factors involved in $\beta 3$ gene transcription regulation by cloning.

Group XXIV. Claim 41-42, drawn to a method of identifying substances that enhance or inhibit the rate of transcription of the $\beta 3$ gene in the presence and absence of a compound.

Should any one of the Groups from I-XXIV be elected, Applicant is required to select one polypeptide (one amino acid sequence). Once one polypeptide sequence is selected, all other sequences will be withdrawn from consideration.

The inventions listed as Groups I-XXIV do not relate to a single general inventive concept under PCT Rule 13.1 because under PCT Rule 13.2 they lack the same or corresponding special technical feature for the following reasons:

The first claimed invention encompasses a DNA and the protein encoded by such DNA (SEQ ID NO:2). The nucleotide sequence and the specific amino acid sequence encoded by the

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DNA are the special technical feature of the invention. However, the second claimed invention fails to recite such a feature (SEQ ID NO:2), because the second claimed invention encompasses a DNA and the protein encoded by such DNA (SEQ ID NO:4). Therefore, the other claimed inventions cannot share a special technical feature with the first claimed invention. Similarly, the inventions of Groups III-X do not share a special technical feature with the invention of Group I because the special technical feature of Group I is absent from Groups III-X. The methods of Groups XI-XXIV are patentably distinct because each recites starting materials not required by the other, and the search of all the methods in one patent application would result in an undue search burden.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Advisory Information

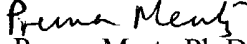
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prema Mertz whose telephone number is (571) 272-0876. The examiner can normally be reached on Monday-Friday from 7:00AM to 3:30PM (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback, can be reached on (571) 272-0961.

Official papers filed by fax should be directed to (703) 872-9306. Faxed draft or informal communications with the examiner should be directed to (571) 273-0876.

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Information regarding the status of an application may be obtained from the Patent application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Prema Mertz Ph.D.
Primary Examiner
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June 28, 2004